FIBARO RGBW CONTROLLER 2

FGRGBW-442

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1: Important safety information

Read this manual before attempting to install the device!

Failure to observe recommendations included in this manual may be dangerous or cause a violation of the law. The manufacturer, Fibar Group S.A. will not be held responsible for any loss or damage resulting from not following the instructions of operating manual.

Do not modify!

Do not modify this device in any way not included in this manual.

Other devices

The manufacturer, Fibar Group S.A. will not be held responsible for any damage or loss of warranty privileges for other connected devices if the connection is not compliant with their manuals.

DANGER!

The device is powered with a secure voltage. Nevertheless, the user should be careful or should commission the installation to a qualified person.

DANGER!

To avoid risk of electrical shock, do not operate the device with wet or moist hands.

This product is intended for indoor use only in dry locations.

Do not use in damp or wet locations, near a bathtub, sink, shower, swimming pool, or anywhere else where water or moisture are present.

Not a toy!

This product is not a toy. Keep away from children and animals!

2: Description and features

2.1: Description

FIBARO RGBW Controller 2 is an universal, Z-Wave Plus compatible RGB/RGBW controller.

FIBARO RGBW Controller 2 uses PWM output signal, allowing it to control LED, RGB, RGBW strips, halogen lights and other resistive loads. It can also measure active power and energy consumed by the load. Controlled devices may be powered by 12 or 24V DC.

Inputs support momentary/toggle switches and 0-10V analog sensors, like temperature sensors, humidity sensors, light sensors etc.

2.2: Main features

- Compatible with any certified Z-Wave or Z-Wave Plus controller.
- Supports Z-Wave network Security Modes: S0 with AES-128 encryption and S2 Authenticated with PRNG-based encryption.
- Works as a Z-Wave signal repeater.
- Allows for connecting:
    - » RGB/RGBW LED strip,
    - » one-color LED strips,
    - » halogen lights,
    - » 0-10V analog sensors or potentiometers,
    - » other compliant resistive loads.
- Active power and energy metering.

3: Specifications

Power supply	12V/24V DC ±10%
Rated load current:	6A for channel, 12A total for all outputs
Power output:	144W combined for 12V 288W combined for 24V
Inputs	4, 0-10V (configurable pull-up) or binary
Outputs	4, PWM
PWM frequency:	244Hz
Maximum length of wires:	2m
Operating temperature	0–40°C (32–104°F)
Radio protocol	Z-Wave (500 series chip)
Radio frequency	868.4 or 869.8 MHz EU; 908.4, 908.42 or 916.0 MHz US; 921.4 or 919.8 MHz ANZ; 869.0 MHz RU;
Transmit power	EIRP max. -1dBm
Range	up to 50m (164 ft) outdoors up to 40m (131 ft) indoors (depending on terrain and building structure)
Dimensions (Length x Width x Height)	42.5 x 38.25 x 20.3 mm (1.67" x 1.5" x 0.8")
Compliance with EU directives	RoHS 2011/65/EU RED 2014/53/EU

ⓘ Radio frequency of individual device must be same as your Z-Wave controller. Check information on the box or consult your dealer if you are not sure.

4: Installation

4.1: Before installation

⚠️ **Connecting the device in a manner inconsistent with this manual may cause risk to health, life or material damage.**

• Connect only in accordance with one of the diagrams,

• The device is powered with secure voltage; nevertheless, the user should be extra careful or should commission the installation to a qualified person,

• **Do not** connect devices which are not compliant with the specification,

• Every connected device should be compliant with the relevant safety standards,

• RGBW Controller 2 and the load connected to its output must be powered by 12VDC or 24VDC stabilized power supply with short circuit protection. Connecting higher voltage or voltage not matching the load's voltage may cause damage to the device,

• Connecting long RGBW/RGB/LED strips may cause voltage drops, resulting in lower light brightness further from R/G/B/W outputs. To eliminate this effect it is recommended to connect few shorter strips in parallel connection instead of one long strip connected serially,

• RGBW Controller 2 has 0-10V inputs. There is no 0-10V output. Output is controlled by PWM at 244Hz,

• We recommend using monostable switches for comfortable light control.

Notes for diagrams:
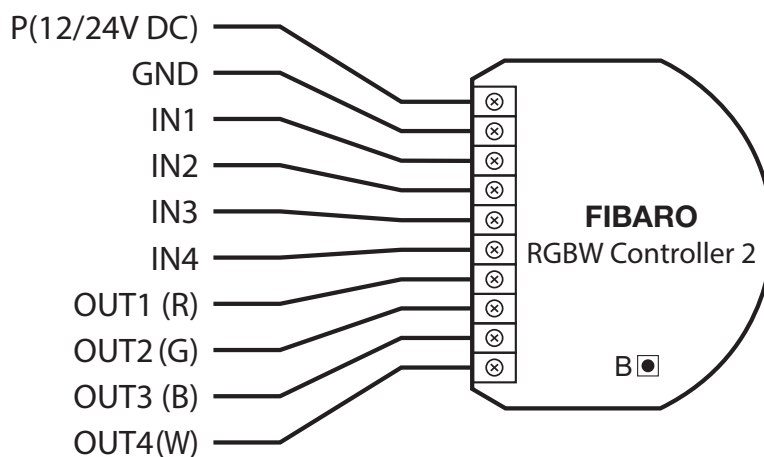
P – 12/24V DC power supply connector

GND – ground connector

IN1 – input connector for controlling OUT1 output

IN2 – input connector for controlling OUT2 output

IN3 – input connector for controlling OUT3 output

IN4 – input connector for controlling OUT4 output

OUT1 – output connector controlled by IN1 input (red LED color recommended)

OUT2 – output connector controlled by IN2 input (green LED color recommended)

OUT3 – output connector controlled by IN3 input (blue LED color recommended)

OUT4 – output connector controlled by IN4 input (white LED color recommended)

B – service button (used to add/remove the device)

4.2: Connection with RGBW/RGB LED strip

We recommend connecting LED strip channels in the same order as on the diagram (R - OUT1, G - OUT2, B - OUT3, W - OUT4).

If you want to connect RGB strip, use the same diagram, but do not connect OUT4 channel.

1. Disconnect the power.

2. Connect with the diagram below:

Diagram 1: Example connection with RGBW LED strip

(1 – power supply, 2 – switch, 3 – RGBW LED strip)

3. Verify correctness of connection.

4. Power the device.

5. Add the device to the Z-Wave network.

6. Change values of parameters:

   • Connected to IN1:

   » RGBW: change parameter 150 to 0

   » HSV and White: change parameter 150 to 1

4.3: Connection with one-color LED strips

1. Disconnect the power.
2. Connect with the diagram below:
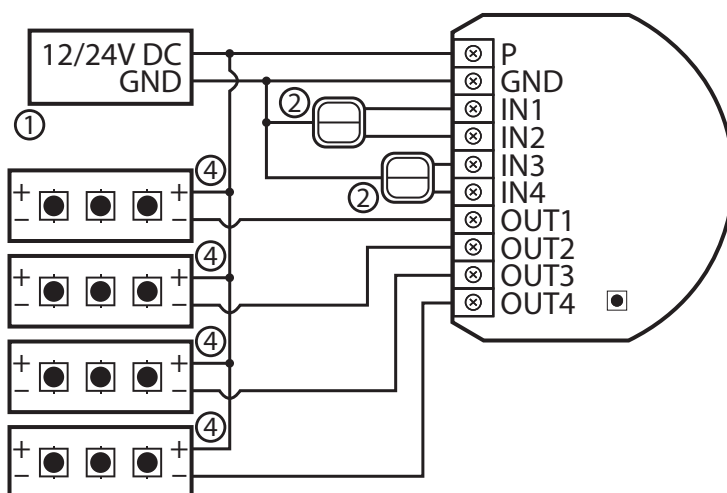
Diagram 3: Example connection with 4 one-color LED strips

(1 – power supply, 2 – switch, 4 – one-color LED strip)

3. Verify correctness of connection.
4. Power the device.
5. Add the device to the Z-Wave network.

4.4: Connection with halogen lights

1. Disconnect the power.
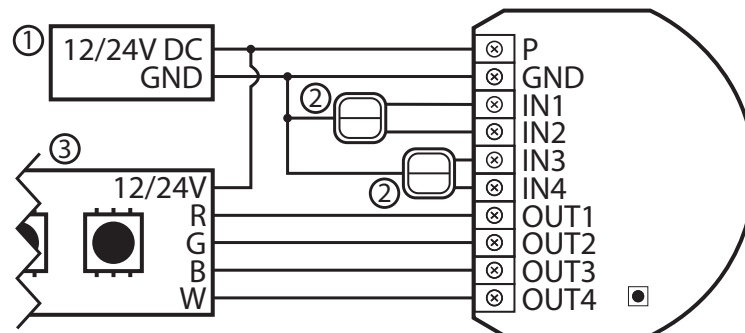2. Connect with the diagram below:
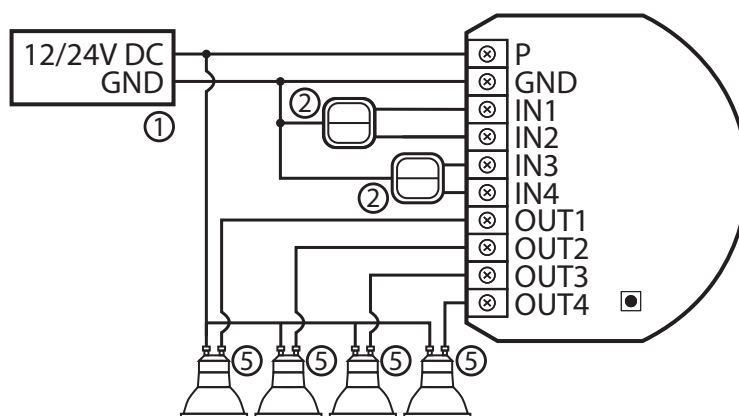
Diagram 4: Example connection with 4 halogen lights

(1 – power supply, 2 – switch, 3 – RGBW LED strip)

3. Verify correctness of connection.
4. Power the device.
5. Add the device to the Z-Wave network.

4.5: Connection with 0-10V analog sensors

The 2-wire analog sensor requires pull-up resistor.

You can connect up to 2 analog sensors to IN1/IN2 terminals.

1. Disconnect power.

2. Connect with the diagram below:
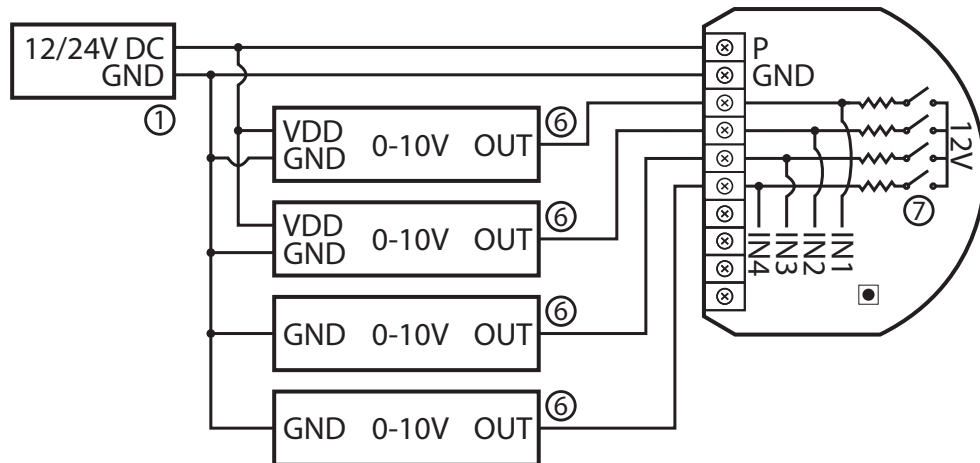
Diagram 5: Example connection with 4 0-10V analog sensors

(1 – power supply, 2 – switch, 6 – 0-10V analog sensor, 7 – configurable pull-up resistors)

3. Verify correctness of connection.

4. Power the device.

5. Add the device to the Z-Wave network.

6. Change values of parameters:

- Connected to IN1:
  - » Does not require pull-up: change parameter 20 to 0
  - » Requires pull-up: change parameter 20 to 1
- Connected to IN2:
  - » Does not require pull-up: change parameter 21 to 0
  - » Requires pull-up: change parameter 21 to 1
- Connected to IN3:
  - » Does not require pull-up: change parameter 22 to 0
  - » Requires pull-up: change parameter 22 to 1
- Connected to IN4:
  - » Does not require pull-up: change parameter 23 to 0
  - » Requires pull-up: change parameter 23 to 1

5: Adding to Z-Wave network

Adding (Inclusion) – Z-Wave device learning mode, allowing to add the device to existing Z-Wave network.

5.1: Adding manually

To add the device to the Z-Wave network **manually**:

1. Power the device.
2. Set the main controller in (Security/non-Security Mode) add mode (see the controller's manual).
3. Quickly, three times click the button.
4. If you are adding in Security S2 Authenticated, scan the DSK QR code or input the underlined part of the DSK (on the device label).
5. LED will start blinking yellow, wait for the adding process to end.
6. Successful adding will be confirmed by the Z-Wave controller's message.

5.2: Adding using Smart Start

To add the device to the Z-Wave network **using Smart Start**:

1. Set the main controller in Security S2 Authenticated add mode (see the controller's manual).
2. Scan the DSK QR code or input the underlined part of the DSK (on the device label).
3. Power the device.
4. LED will start blinking yellow, wait for the adding process to end.
5. Successful adding will be confirmed by the Z-Wave controller's message.

> ℹ️ In case of problems with adding the device, please re-set the device and repeat the adding procedure.

6: Removing from Z-Wave network

Removing (Exclusion) – Z-Wave device learning mode, allowing to remove the device from existing Z-Wave network. Removing also results in resetting the device to factory defaults.

To **remove** the device from the Z-Wave network:

1. Power the device.

2. Set the main controller into remove mode (see the controller's manual).

3. Quickly, three times click the button.

4. LED will start blinking yellow, wait for the removing process to end.

5. Successful removing will be confirmed by the Z-Wave controller's message.

7: Operating the device

7.1: Controlling the device using connected switches

Controlling connected loads

Input can control output only with the same number (e.g. switch connected to IN1 controls load connected to output OUT1). Perform following actions on inputs to change state of the connected load:

- 1xclick – change to the opposite one (ON/OFF)
- 2xclick – set to 100%
- hold/release – dimm/brighten

Other actions

- 3xclick – start learn mode to add/remove to/from Z-Wave network
- 1,2,3,4,5xclick/hold/release – activate scene in the controller for specific action (requires prior configuration)

7.2: Visual indications

The built-in LED light shows current device status.

After powering the device:

- Green – device added to a Z-Wave network (without Security S2 Authenticated)
- Magenta – device added to a Z-Wave network (with Security S2 Authenticated)
- Red – device not added to a Z-Wave network

Update:

- Blinking cyan – update in progress
- Green – update successful (added without Security S2 Authenticated)
- Magenta – update successful (added with Security S2 Authenticated)
- Red – update not successful

Menu:

- 3 green blinks – entering the menu (added without Security S2 Authenticated)
- 3 magenta blinks – entering the menu (added with Security S2 Authenticated)

- 3 red blinks – entering the menu (not added to a Z-Wave network)
- Green – reset energy consumption memory
- Magenta – start range test
- Yellow – reset to factory defaults

7.3: Menu

Menu allows to perform Z-Wave network actions. In order to use the menu:

1. Press and hold the button to enter the menu, device blinks to signal adding status (see 7.2: Visual indications).
2. Release the button when device signals desired position with colour:
   - **GREEN** - reset energy consumption memory
   - **MAGENTA** - start range test
   - **YELLOW** - reset to factory defaults
3. Quickly click the button to confirm.

7.4: Resetting to factory defaults

Reset procedure allows to restore the device back to its factory settings, which means all information about the Z-Wave controller and user configuration will be deleted.

> ℹ️ Resetting the device is not the recommended way of removing the device from the Z-Wave network. Use reset procedure only if the primary controller is missing or inoperable. Certain device removal can be achieved by the procedure of removing described.

1. Press and hold the button to enter the menu.
2. Release button when the device glows yellow.
3. Quickly click the button to confirm.
4. After few seconds the device will be restarted, which is signalled with the red colour.

8: Z-Wave range test

The device has a built in Z-Wave network main controller's range tester.

ⓘ To make Z-Wave range test possible, the device must be added to the Z-Wave controller. Testing may stress the network, so it is recommended to perform the test only in special cases.

To test the main controller's range:

1. Press and hold the button to enter the menu.

2. Release button when the device glows magenta.

3. Quickly click the button to confirm.

4. Visual indicator will indicate the Z-Wave network's range (range signaling modes described below).

5. To exit Z-Wave range test, press the button briefly.

Z-Wave range tester signalling modes:

- **Visual indicator pulsing green** - the device attempts to establish a direct communication with the main controller. If a direct communication attempt fails, the device will try to establish a routed communication, through other modules, which will be signalled by visual indicator pulsing yellow.

- **Visual indicator glowing green** - the device communicates with the main controller directly.

- **Visual indicator pulsing yellow** - the device tries to establish a routed communication with the main controller through other modules (repeaters).

- **Visual indicator glowing yellow** - the device communicates with the main controller through the other modules. After 2 seconds the device will retry to establish a direct communication with the main controller, which will be signalled with visual indicator pulsing green.

- **Visual indicator pulsing violet** - the device does communicate at the maximum distance of the Z-Wave network. If connection proves successful it will be confirmed with a yellow glow. It's not recommended to use the device at the range limit.

- **Visual indicator glowing red** - the device is not able to connect to the main controller directly or through another Z-Wave network device (repeater).

ⓘ Communication mode of the device may switch between direct and one using routing, especially if the device is on the limit of the direct range.

9: Activating scenes

The device can activate scenes in the Z-Wave controller by sending scene ID and attribute of a specific action using Central Scene Command Class.

In order for this functionality to work, connect monostable or bistable switch to the IN1-IN4 inputs and set parameters 20-23 to 3, 4 or 5 (depending on type of switch).

By default scenes are not activated, set parameters 40-43 to enable scene activation for selected inputs and actions.

Scene IDs for inputs

Input	Scene ID
IN1	1
IN2	2
IN3	3
IN4	4

Attributes for actions

Action	Attribute
Switch clicked once	Key Pressed 1 time
Switch clicked twice	Key Pressed 2 times
Switch clicked thrice*	Key Pressed 3 times
Switch held**	Key Held Down
Switch released**	Key Released

* Activating triple clicks will disallow removing using input terminal.

** Not available for toggle switches.

10: Configuration

10.1: Associations

Association (linking devices) - direct control of other devices within the Z-Wave system network e.g. Dimmer, Relay Switch, Roller Shutter or scene (may be controlled only through a Z-Wave controller).

Association ensures direct transfer of control commands between devices, is performed without participation of the main controller and requires associated device to be in the direct range.

The device provides the association of 10 groups:

1st association group – "Lifeline" reports the device status and allows for assigning single device only (main controller by default).

2nd association group – "RGBW Sync" allows to synchronize state of other FIBARO RGBW Controller 2 devices (do not use with other devices).

3rd association group – "On/Off (IN1)" is assigned to IN1 input terminal (uses Basic command class).

4th association group – "Dimmer (IN1)" is assigned to IN1 input terminal (uses Switch Multilevel command class).

5th association group – "On/Off (IN2)" is assigned to IN2 input terminal (uses Basic command class).

6th association group – "Dimmer (IN2)" is assigned to IN2 input terminal (uses Switch Multilevel command class).

7th association group – "On/Off (IN3)" is assigned to IN3 input terminal (uses Basic command class).

8th association group – "Dimmer (IN3)" is assigned to IN3 input terminal (uses Switch Multilevel command class).

9th association group – "On/Off (IN4)" is assigned to IN4 input terminal (uses Basic command class).

10th association group – "Dimmer (IN4)" is assigned to IN4 input terminal (uses Switch Multilevel command class).

The device in 2nd to 10th group allows to control 5 regular or multichannel devices per an association group, with the exception of "LifeLine" that is reserved solely for the controller and hence only 1 node can be assigned.

10.2: Advanced parameters

The device allows to customize its operation to user's needs using configurable parameters.

The settings can be adjusted via Z-Wave controller to which the device is added. The way of adjusting them might differ depending on the controller.

In the FIBARO interface parameters are presented as simple options in Advanced Settings of the device.

Available parameters:

1.	Remember device status before the power failure
This parameter determines how the device will react in the event of power supply failure (e.g. power outage or taking out from the electrical outlet). After the power supply is back on, the device can be restored to previous state or remain switched off.	
Parameter size	1B
Default value	1
Available values	0 - device remains switched off 1 - device restores the state from before the power failure

20.	Input 1 - operating mode
This parameter allows to choose mode of 1st input (IN1). Change it depending on connected device.	
Parameter size	1B
Default value	2 (monostable button)
Available values	0 – Analog input without internal pull-up (Sensor Multilevel) 1 – Analog input with internal pull-up (Sensor Multilevel) 2 – Monostable button (Central Scene) 3 – Bistable button (Central Scene) 4 – Bistable button with memory (Central Scene)

21.	Input 2 - operating mode
This parameter allows to choose mode of 2nd input (IN2). Change it depending on connected device.	
Parameter size	1B
Default value	2 (monostable button)
Available values	0 – Analog input without internal pull-up (Sensor Multilevel)
	1 – Analog input with internal pull-up (Sensor Multilevel)
	2 – Monostable button (Central Scene)
	3 – Bistable button (Central Scene)
	4 – Bistable button with memory (Central Scene)
22.	Input 3 - operating mode
This parameter allows to choose mode of 3rd input (IN3). Change it depending on connected device.	
Parameter size	1B
Default value	2 (monostable button)
Available values	0 – Analog input without internal pull-up (Sensor Multilevel)
	1 – Analog input with internal pull-up (Sensor Multilevel)
	2 – Monostable button (Central Scene)
	3 – Bistable button (Central Scene)
	4 – Bistable button with memory (Central Scene)
23.	Input 4 - operating mode
This parameter allows to choose mode of 4th input (IN4). Change it depending on connected device.	
Parameter size	1B
Default value	2 (monostable button)
Available values	0 – Analog input without internal pull-up (Sensor Multilevel)
	1 – Analog input with internal pull-up (Sensor Multilevel)
	2 – Monostable button (Central Scene)
	3 – Bistable button (Central Scene)
	4 – Bistable button with memory (Central Scene)

30.	Alarm configuration - 1st slot
This parameter determines to which alarm frames and how the device should react. The parameters consist of 4 bytes, three most significant bytes are set according to the official Z-Wave protocol specification. X – channels summarized: 1/2/3/4 channel are equal to values 1/2/4/8. Y – sequence number: 1-10 (parameter 157).	

Parameter size	4B
Default value	0 (default)
Available values	1B [MSB] – Notification Type 2B – Notification Value 3B – Event/State Parameters 4B [LSB] – action: 0x00 – No reaction 0x0X – Turn off selected channel 0x1X – Turn on the load 0x2X – Turn off the load 0x3Y – Load blinking

31.	Alarm configuration - 2nd slot
This parameter determines to which alarm frames and how the device should react. The parameters consist of 4 bytes, three most significant bytes are set according to the official Z-Wave protocol specification. X – channels summarized: 1/2/3/4 channel are equal to values 1/2/4/8. Y – sequence number: 1-10 (parameter 157).	

Parameter size	4B
Default value	0 (default)
Available values	1B [MSB] – Notification Type 2B – Notification Value 3B – Event/State Parameters 4B [LSB] – action: 0x00 – No reaction 0x0X – Turn off selected channel 0x1X – Turn on the load 0x2X – Turn off the load 0x3Y – Load blinking

32.	Alarm configuration - 3rd slot
This parameter determines to which alarm frames and how the device should react. The parameters consist of 4 bytes, three most significant bytes are set according to the official Z-Wave protocol specification. X – channels summarized: 1/2/3/4 channel are equal to values 1/2/4/8. Y – sequence number: 1-10 (parameter 157).	

Parameter size	4B
Default value	0 (default)
Available values	1B [MSB] – Notification Type 2B – Notification Value 3B – Event/State Parameters 4B [LSB] – action: 0x00 – No reaction 0x0X – Turn off selected channel 0x1X – Turn on the load 0x2X – Turn off the load 0x3Y – Load blinking

33.	Alarm configuration - 4th slot
This parameter determines to which alarm frames and how the device should react. The parameters consist of 4 bytes, three most significant bytes are set according to the official Z-Wave protocol specification. X – channels summarized: 1/2/3/4 channel are equal to values 1/2/4/8. Y – sequence number: 1-10 (parameter 157).	

Parameter size	4B
Default value	0 (default)
Available values	1B [MSB] – Notification Type 2B – Notification Value 3B – Event/State Parameters 4B [LSB] – action: 0x00 – No reaction 0x0X – Turn off selected channel 0x1X – Turn on the load 0x2X – Turn off the load 0x3Y – Load blinking

34.	Alarm configuration - 5th slot
This parameter determines to which alarm frames and how the device should react. The parameters consist of 4 bytes, three most significant bytes are set according to the official Z-Wave protocol specification. X – channels summarized: 1/2/3/4 channel are equal to values 1/2/4/8. Y – sequence number: 1-10 (parameter 157).	
Parameter size	4B
Default value	0 (default)
Available values	1B [MSB] – Notification Type 2B – Notification Value 3B – Event/State Parameters 4B [LSB] – action: 0x00 – No reaction 0x0X – Turn off selected channel 0x1X – Turn on the load 0x2X – Turn off the load 0x3Y – Load blinking
35.	Duration of alarm signalization
This parameter determines duration of alarm signalization.	
Parameter size	2B
Default value	600 (10min)
Available values	0 – infinite signalization 1-32400 (1s-9h, 1s step)
40.	Input 1 - sent scenes
This parameter defines which actions result in sending scene ID and attribute assigned to them. Parameter is relevant only if parameter 20 is set to 2, 3 or 4.	
Parameter size	1B
Default value	0 (no scenes sent)
Available values	1 – Key pressed 1 time 2 – Key pressed 2 times 4 - Key pressed 3 times 8 – Key hold down and key released

41.	Input 2 - sent scenes
This parameter defines which actions result in sending scene ID and attribute assigned to them. Parameter is relevant only if parameter 21 is set to 2, 3 or 4.	
Parameter size	1B
Default value	0 (no scenes sent)
Available values	1 – Key pressed 1 time 2 – Key pressed 2 times 4 – Key pressed 3 times 8 – Key hold down and key released

42.	Input 3 - sent scenes
This parameter defines which actions result in sending scene ID and attribute assigned to them. Parameter is relevant only if parameter 22 is set to 2, 3 or 4.	
Parameter size	1B
Default value	0 (no scenes sent)
Available values	1 – Key pressed 1 time 2 – Key pressed 2 times 4 – Key pressed 3 times 8 – Key hold down and key released

43.	Input 4 - sent scenes
This parameter defines which actions result in sending scene ID and attribute assigned to them. Parameter is relevant only if parameter 23 is set to 2, 3 or 4.	
Parameter size	1B
Default value	0 (no scenes sent)
Available values	1 – Key pressed 1 time 2 – Key pressed 2 times 4 – Key pressed 3 times 8 – Key hold down and key released

61.	Power reports - on change	
This parameter determines the minimum change in consumed power that will result in sending new power report to the main controller. For loads under 50W the parameter is not relevant and reports are sent every 5W change. Power report are sent no often then every 30 seconds.		
Parameter size	2B	
Default value	15 (15%)	
Available values	0 - reports are disabled	
	1-500 (1-500%) - change in power	
62.	Power reports - periodic	
This parameter determines in what time intervals the periodic power reports are sent to the main controller. Periodic reports do not depend of power change (parameter 61).		
Parameter size	2B	
Default value	3600 (1h)	
Available values	0 - periodic reports are disabled	
	1-32400 (1-32400s) - report interval	
63.	Analog inputs reports - on change	
This parameter defines minimal change (from the last reported) of analog input value that results in sending new report. Parameter is relevant only for analog inputs (parameter 20, 21, 22 or 23 set to 0 or 1).		
Parameter size	1B	
Default value	5 (0.5V)	
Available values	0 - reporting on change disabled	
	1-100 (0.1-10V, 0.1V step)	
64.	Analog inputs reports - periodic	
This parameter defines reporting period of analog inputs value. Periodical reports are independent from changes in value (parameter 63). Parameter is relevant only for analog inputs (parameter 20, 21, 22 or 23 set to 0 or 1).		
Parameter size	2B	
Default value	0 (periodical reports disabled)	
Available values	0 – periodical reports disabled	
	60-32400 (60s-9h, 1s step)	

65.	Energy reports - on change
This parameter determines the minimum change in consumed energy that will result in sending new energy report to the main controller.	
Parameter size	2B
Default value	10 (0.1 kWh)
Available values	0 - reports are disabled 1-500 (0.01 - 5 kWh) - change in energy

66.	Energy reports - periodic
This parameter determines in what time intervals the periodic energy reports are sent to the main controller. Periodic reports do not depend of energy change (parameter 65)	
Parameter size	2B
Default value	3600 (1h)
Available values	0 - periodic reports are disabled 1-32400 (1-32400s) - report interval

150.	Inputs - LED colour control mode
This parameter defines the inertia time of IN1 input in alarm modes. Adjust this parameter to prevent bouncing or signal disruptions. Parameter is relevant only if parameter 20 is set to 0 or 1 (alarm mode).	
Parameter size	1B
Default value	0 (RGBW mode)
Available values	0 – RGBW mode (every input controls output with the same number, IN1-OUT1, IN2-OUT2, IN3-OUT3, IN4-OUT4) 1 – HSV and White (inputs works in HSV color model, IN1-H (Hue), IN2-S (Saturation), IN3-V (Value), IN4-White (OUT4)

151.	Local control - time between extreme values
This parameter determines time needed to change the state between extreme values (0-100%) when controlling with connected buttons.	
Parameter size	2B
Default value	3 (3s)
Available values	0 – instantly 1-127 (1s-127s, 1s step) 128-254 (1min-127min, 1min step)

152.	Remote control - time between extreme values
This parameter determines time needed to change the state between extreme values (0-100%) when controlling via Z-Wave network.	
Parameter size	2B
Default value	3 (3s)
Available values	0 – instantly 1-127 (1s-127s, 1s step) 128-254 (1min-127min, 1min step)

153.	Active associations
This parameter allows to select which actions will result in sending frames to associated devices. The parameters consist of 4 bytes, each bite reserved for separate channel, from most significant to least significant.	
Parameter size	4B
Default value	522133279 (0x1F 1F 1F 1F – all associations active)
Available values	**For every byte:** 1 – 1xclick send ON frame (value set in parameter 154) 2 – 1xclick send OFF frame (value set in parameter 155) 4 – 2xclick (value set in parameter 156) 8 – Hold/release sends UP frame 16 – Hold/release sends DOWN frame

154.	ON frame value for single click	
This parameter defines value sent to devices in association groups (using Basic Command Class).		
The parameters consist of 4 bytes, each bite reserved for separate channel, from most significant to least significant.		
Parameter size	4B	
Default value	4294967295 (0xFF FF FF FF – 255 for all channels)	
Available values	**For every byte:** 0-255	

155.	OFF frame value for single click	
This parameter defines value sent to devices in association groups (using Basic Command Class).		
The parameters consist of 4 bytes, each bite reserved for separate channel, from most significant to least significant.		
Parameter size	4B	
Default value	0 (0x00 00 00 00 – 0 for all channels)	
Available values	**For every byte:** 0-255	

156.	ON frame value for double click	
This parameter defines value sent to devices in association groups (using Basic Command Class).		
The parameters consist of 4 bytes, each bite reserved for separate channel, from most significant to least significant.		
Parameter size	4B	
Default value	0 (0x63 63 63 63 – 99 for all channels)	
Available values	**For every byte:** 0-255	

157.	Start programmed sequence	
Setting this parameter will start programmed sequence with selected number.		
Parameter size	1B	
Default value	0 (sequence inactive)	
Available values	0 – sequence inactive 1-10 – sequence number	

11: Regulations

This device complies with Part 15 of the FCC Rules

Operation is subject to the following two conditions:

1. This device may not cause harmful interference

2. This device must accept any interference received, including interference that may cause undesired operation. This equipment has been tested and found to comply with the limits for a Class B digital device, pursuant to part 15 of the FCC Rules. These limits are designed to provide reasonable protection against harmful interference in a residential installation. This equipment generates, uses and can radiate radio frequency energy and, if not installed and used in accordance with the instructions, may cause harmful interference to radio communications. However, there is no guarantee that interference will not occur in a particular installation. If this equipment does cause harmful interference to radio or television reception, which can be determined by turning the equipment off and on, the user is encouraged to try to correct the interference by one or more of the following measures:

- Reorient or relocate the receiving antenna.
- Increase the separation between the equipment and receiver.
- Connect the equipment into an outlet on a circuit different from that to which the receiver is connected.
- Consult the dealer or an experienced radio/TV technician for help.

Changes and modifications not expressly approved by the manufacturer or registrant of this equipment can void your authority to operate this equipment under Federal Communications Commission's rules.

Industry Canada (IC) Compliance Notice

This device complies with Industry Canada license-exempt RSSs. Operation is subject to the following two conditions: (1) this device may not cause interference, and (2) this device must accept any interference, including interference that may cause undesired operation of the device.

The digital apparatus complies with Canadian CAN ICES‑3 (B)/NMB‑3(B).

- French: Le présentappareilestconforme aux CNR d'Industrie Canada applicables aux appareils

radio exempts de licence. L'exploitationestautorisée aux deux conditions suivantes: (1) l'appareil

ne doit pas produire de brouillage, et (2) l'utilisateur de l'appareildoit accepter tout brouillageradi

oélectriquesubi, mêmesi le brouillageest susceptible d'encompromettre le fonctionnement.

l'appareil numérique du ciem conforme canadien peut - 3 (b) / nmb - 3 (b).

This device meets the exemption from the routine evaluation limits in section 2.5 of RSS 102 and compliance with RSS 102 RF exposure, users can obtain Canadian information on RF exposure and compliance.
cet appareil est conforme à l'exemption des limites d'évaluation courante dans la section 2.5 du
cnr - 102 et conformité avec rss 102 de l'exposition aux rf, les utilisateurs peuvent obtenir des données canadiennes sur l'exposition aux champs rf et la conformité.
This equipment complies with Canada radiation exposure limits set forth for an uncontrolled environment.
RF Exposure Statement
The device has been evaluated to meet general RF exposure requirement. The device can be
usedin portable exposurecondition without restriction.
L'appareil a été évalué pour répondre aux exigences générales d'exposition aux radiofréquences. L'appareil peut être utilisé en condition d'exposition portable
sans restriction.

Legal Notices
All information, including, but not limited to, information regarding
the features, functionality, and/or other product specification are subject to change without notice. Fibaro reserves all rights to revise or update its products, software, or documentation without any obligation to notify any individual or entity.

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Declaration of conformity

CE Hereby, Fibar Group S.A. declares that the device is in compliance with the essential requirements and other relevant provisions of Directive 2014/53/EU. The full text of the EU declaration of conformity is available at the following internet address: www.manuals.fibaro.com

WEEE Directive Compliance

Device labelled with this symbol should not be disposed with other household wastes. It shall be handed over to the applicable collection point for the recycling of waste electrical and electronic equipment.